



PATENT APPLICATION 1638

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Keqiang WU et al.

Group Art Unit: 1638

Application No.: 09/645,337

Examiner: A. Mehta

Filed: August 25, 2000

Docket No.: 104107.01

For: REPRESSING GENE EXPRESSION PLANTS

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

TECH CENTER 1600/2900

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- ☒ 1. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, Notice of Allowance or other action that closes prosecution (e.g., Quayle Action).
- ☒ a. I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).
- ☒ 2. The references were cited in a counterpart foreign application. An English language version of the foreign search report is attached for the Examiner's information.

Respectfully submitted,

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PATENT & TRADEMARK OFFICEATTY DOCKET NO.  
104107.01APPLICATION NO.  
09/645,337

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANT(S)  
Keqiang WU et al.FILING DATE  
August 25, 2000GROUP  
1638

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS
		5,808,034	09/15/1998	BRIDGES et al.		

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS
		WO 90/08829	08/09/1990	WIPO		

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)


EXAMINER

DATE CONSIDERED

Examiner: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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Zweigstelle  
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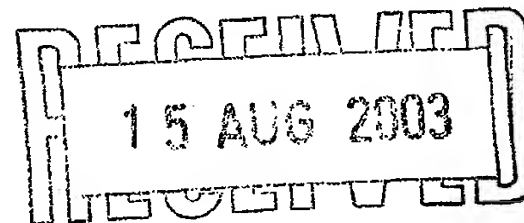
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Département à  
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15/2/04

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Datum/Date

15. 08. 2003

Zeichen/Ref./Réf.  
JMC/SJB/P6977EP

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.  
00307375.6

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

Her Majesty in Right of Canada, as represented by

## COMMUNICATION

The European Patent Office herewith transmits

- ☒ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☐ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☒ Abstract
- ☒ Title
- ☐ Figure

- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

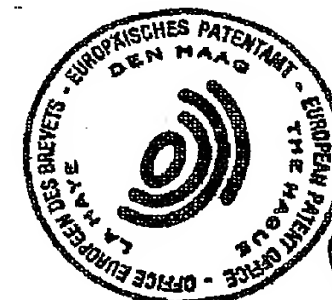
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.

Figure:

- ☐ Additional copy(copies) of the documents cited in the European search report.

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



EPO Form 1507 02.93



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-8, 14-16, 21, 22, 25-27



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-8, 14-16, 21, 22, 25-27

a method of regulating gene expression in a transgenic plant, a method for altering the development of an organism, and a method for altering a biochemical, physiological or developmental pathway of an organism, wherein chimeric nucleotide sequences comprising a regulatory element in operative association with a nucleotide sequence encoding histone deacetylase and a DNA binding protein are used

2. Claims: 9-13,  
17-20 (all partially and in so far as applicable)

isolated nucleic acid molecules encoding a histone deacetylase represented by SEQ ID NO: 1, vectors containing said nucleic acid, the isolated protein encoded by said nucleic acid, plants transformed with constructs containing said nucleic acid

3. Claims: 9-13,  
17-20 (all partially and in so far as applicable)

isolated nucleic acid molecules encoding a histone deacetylase represented by SEQ ID NO: 3, vectors containing said nucleic acid, the isolated protein encoded by said nucleic acid, plants transformed with constructs containing said nucleic acid

4. Claims: 9-13,  
17-20 (all partially and in so far as applicable)

isolated nucleic acid molecules encoding a histone deacetylase represented by SEQ ID NO: 5, vectors containing said nucleic acid, the isolated protein encoded by said nucleic acid, plants transformed with constructs containing said nucleic acid

5. Claims: 9-13,  
17-20 (all partially and in so far as applicable)

isolated nucleic acid molecules encoding a histone deacetylase represented by SEQ ID NO: 7, vectors containing said nucleic acid, the isolated protein encoded by said



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

nucleic acid, plants transformed with constructs containing  
said nucleic acid

6. Claims: 23, 24, 28

a method to identify a DNA binding protein



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
P,X	WU KEQIANG ET AL: "Functional analysis of HD2 histone deacetylase homologues in Arabidopsis thaliana." PLANT JOURNAL, vol. 22, no. 1, April 2000 (2000-04), pages 19-27, XP002240551 ISSN: 0960-7412 * the whole document *	1-8, 14-16, 21,22, 25-27	C12N15/55 C12N15/63 C12N15/82 C12N9/16 A01H5/00
Y	YANG W-M ET AL: "TRANSCRIPTIONAL REPRESSION BY YY1 IS MEDIATED BY INTERACTION WITH A MAMMALIAN HOMOLOG OF THE YEAST GLOBAL REGULATOR RPD3" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 93, November 1996 (1996-11), pages 12845-12850, XP000987075 ISSN: 0027-8424 * the whole document * * in particular page 12846, right column; figure 3 *	1-8, 14-16, 21,22, 25-27	
Y,D	ROSSI V ET AL: "Identification and characterization of an RPD3 homologue from maize (Zea mays L.) that is able to complement an rpd2 null mutant of Saccharomyces cerevisiae" MOLECULAR AND GENERAL GENETICS, SPRINGER VERLAG, BERLIN, DE, vol. 258, May 1998 (1998-05), pages 288-296, XP002110438 ISSN: 0026-8925 * the whole document *	1-8, 14-16, 21,22, 25-27	C12N A01H
-The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 May 2003	Examiner Bucka, A
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</div>			

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EPO FORM 1503 03.82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y,D	KADOSH DAVID ET AL: "Repression by Ume6 involves recruitment of a complex containing Sin3 corepressor and Rpd3 histone deacetylase to target promoters." CELL, vol. 89, no. 3, 1997, pages 365-371, XP002240584 ISSN: 0092-8674 * page 368; figure 4 *	1-8, 14-16, 21,22, 25-27	
Y,D	LUSSER A ET AL: "Identification of Maize Histone Deacetylase HD2 as an Acidic Nucleolar Phosphoprotein" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 277, 4 July 1997 (1997-07-04), pages 88-91, XP002110443 ISSN: 0036-8075 * the whole document *	1-8, 14-16, 21,22, 25-27	
A	US 5 808 034 A (BRIGHT SIMON WILLIAM JONATHAN ET AL) 15 September 1998 (1998-09-15)  * column 1 - column 3; figures 1,2 *	1-8, 14-16, 21,22, 25-27	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A,D	WO 98 48825 A (NAGY LASZLO ;EVANS ROLAND M (US); SALK INST FOR BIOLOGICAL STUDI ()) 5 November 1998 (1998-11-05)	1-8, 14-16, 21,22, 25-27	
A	* the whole document * * in particular pages 22-23 *  WO 90 08829 A (ICI PLC) 9 August 1990 (1990-08-09)  * the whole document *	1-8, 14-16, 21,22, 25-27	
2			
<del>The present search report has been drawn up for all claims</del>			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>12 May 2003</b>	Examiner <b>Bucka, A</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document  T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  & : member of the same patent family, corresponding document			



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 7375

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-05-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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WO 9008829 A	09-08-1990	-----	
		AU 644783 B2	23-12-1993
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